

DYNAMIC THRESHOLD VOLTAGE MOSFET ON SOI

ABSTRACT OF THE DISCLOSURE

Provision of a body control contact adjacent a transistor and between the transistor and a contact to the substrate or well in which the transistor is formed allows connection and disconnection of the substrate of the transistor to and from a zero (ground) or substantially arbitrary low voltage in accordance with control signals applied to the gate of the transistor to cause the transistor to exhibit a variable threshold which maintains good performance at low supply voltages and reduces power consumption/dissipation which is particularly advantageous in portable electronic devices. Floating body effects (when the transistor substrate in disconnected from a voltage source in the "on" state) are avoided since the substrate is discharged when the transistor is switched to the "off" state. The transistor configuration can be employed with both n-type and p-type transistors which may be in complementary pairs.